

Bellaire and Queens, it was interesting to see that certain plants seem to have established themselves in one or another of the ponds, almost to the exclusion of others.

In a pond three fourths of a mile south of Nassau Boulevard, the Water Loosestrife, *Decodon verticillatus*, held almost complete possession. In another the Buttonball Bush, *Cephalanthus occidentalis* was supreme. In the well watered pond a little east of the Rocky Hill Road, *Brasenia peltata*, the Water Shield, was the exclusive occupant, or at least the conspicuous one at that season, although in summer, other species would probably be found. In two of the ponds in the new Hillside Park, which were dry on the date of this excursion, *Potamogeton natans* is the conspicuous occupant in summer on one, and *Utricularia vulgaris* in another. Members of the New York Microscopical Society have found a similar exclusiveness in minute animal forms, in some of these ponds, species plentiful in some being absent in others.

It is still possible by dodging the motor highways, to enjoy a pleasant woodland ramble in these Queens woods, but with the extension of roads and building, it will not be many years before they are cut up. It may be hoped that the city will be able to secure several hundred acres more, in addition to the Hillside and Alley Pond parks, and that part of its acquisitions may be kept in a natural state.

## PROCEEDINGS OF THE CLUB

### MEETING OF NOVEMBER 20, 1929

The meeting was called to order by President Denslow at 3:30 P.M. at The New York Botanical Garden. The minutes of the meeting of October 16, held at The New York Botanical Garden, were read and approved.

The following were unanimously elected to membership in the club:

Dr. E. P. Meinecke, Forest Service, Ferry Building, San Francisco, California; Prof. Clyde T. Reed, Texas College of Arts and Industries, Kingsville, Texas; Mr. F. W. Hunnewell, 5 University Hall, Harvard University, Cambridge, Massachusetts; Miss Dorothy Hammond, 418 Central Park West, New York City; Mr. Harold N. Moldenke, The Villa Elsenore,

R. F. D. No. 3, Plainfield, New Jersey; Mr. Alexander F. Skutch, 3509 Clark's Lane, Baltimore, Maryland; and Dr. E. B. Merrill, Director, The New York Botanical Garden, Bronx Park, New York City.

The resignation of Miss Rosella Ames was accepted.

The reading of the report of the Coördinating Council of Nature Activities was accepted.

Dr. Gleason gave a report of life membership in the Torrey Botanical Club. The report of the committee was accepted without adopting it. It was moved by Dr. Britton and seconded by Mr. MacKenzie that fee for life-membership would be \$100.00. This was unanimously voted. It was moved and seconded that all members who had been members of the club for fifty years or longer on January 1, 1930 become automatically life members without further dues. This motion was unanimously adopted, and Dr. Barnhart was appointed a committee of one to draw up and submit these amendments to the constitution in proper form.

It was moved by Dr. Gleason and seconded by Dr. Harper that the Torrey Botanical Club publish the botanical results of the Tyler-Duida Expedition, providing funds are available for the purpose, as a volume of its Memoirs.

Dr. Gleason moved and Dr. Hazen seconded the motion that the President of the Club appoint a committee to solicit funds for the above purpose. Dr. Gleason, Dr. Britton, Dr. Harper, Mr. MacKenzie and Mrs. Trelease were appointed.

Dr. H. A. Gleason gave a talk on "Plants of Mount Duida." The studies on the flora of the Mount Duida summit, so far as they have yet been made, indicate an endemism of more than sixty per cent. Of the remaining forty per cent., many species have been hitherto known only from Mount Roraima, some 350 miles to the eastward. The flora seems to show even greater affinity to that of southern Brazil than does Roraima, but an Andean element is also present. Among the new discoveries exhibited were a new genus and three new species in the family Rapateaceae, a new genus of Ochnaceae, with strikingly handsome flowers, and three new species of the Southern American pitcher-plant, *Heliamphora*. A full-sized plant of the rare *Barbacenia Alexandrinae* was also displayed.

Dr. E. B. Matzke gave a talk on "Variations in *Stellaria aquatica*." The cotyledonary node of *Stellaria aquatica* commonly has two branches in the axil of each of the two leaves; the two succeeding nodes more usually have a single one in the axil of each leaf. From there on there is, as a rule, a single branch in the axil of one of the two leaves at each node—the leaf arrangement being decussate. Thus spirals are formed by the branches; in 187 cases this spiral was counterclockwise, in 197 clockwise, both types occurring on the same plant with no apparent regularity in their distribution.

The direction of the spiral is correlated with the overlapping of the sepals in the first flower in the inflorescence; and the arrangement of the sepals of subsequent flowers of the dichotomous cyme is definitely related to that of the first flower.

Variations occur in the number and character of the sepals, petals, stamens and carpels; these variations occur with noticeable regularity in certain positions in the flower. Thus axes of symmetry are established in the flower which bear a definite relation to similar axes in different flowers of the same inflorescence.

It is thus possible to establish the type characteristic for the stem, the inflorescence and the flower, and the common variations from that type.

There is a progressive seasonal sterility of the stamens in *Stellaria aquatica* from the beginning of the flowering period in July to its termination at the end of November.

FORMAN T. MCLEAN  
Secretary

#### MEETING OF DECEMBER 3, 1929

The meeting was called to order at Millbank Hall, Barnard College, at 8:30 P.M. by President Denslow. Ninety people were present including a number of visitors from the teachers of Biology in the schools.

The following were unanimously elected to membership in the club:

Dr. Charles C. Deam, Research Forester, The Department of Conservation, Bluffton, Indiana; and Miss Marjorie Swift, The New York Botanical Garden, Bronx Park, New York City.

The meeting was then turned over to Professor E. W. Sinnott of Barnard College who conducted the "Symposium on Some New Materials and Methods of Value in Botanical Teaching." Dr. Sinnott made a brief comment on his own work in plant breeding, stressing particularly the importance of heterozygosis.

He then called on Dr. Harper who discussed Growth in Plants, and remarked on what wonderful contrivances the hereditary genes must be which control growth. He particularly stressed the behavior of the myxomycetes which develop during life as amoeboid slime molds in which apparently each individual cell is independent of every other. At fruiting time these cells build this into complex fruiting bodies which are always very regular in character. Just how do the genes in the cells cause each one of these to assume its proper place in this fruiting structure?

Dr. Benedict was then called upon for a discussion of Fruit Morphology. He took as an example the apple and explained in detail its structure and development.

Dr. Forman T. McLean talked about Mineral Nutrition of Plants and distributed an outline of his talk giving brief directions for setting up sand cultures to show the need of the fertilizer elements of plants and solution cultures to similarly show the need for the ten so-called essential elements. He stressed the fact that there are now recognized many more than ten chemical elements required by green plants but that the exact number is not yet fully determined.

Mr. Charles A. Gramet of Stuyvesant High School then exhibited demonstrations of Photosynthesis by the water displacement method. He particularly stressed the importance of experiments by Ingen-Housz and made it quite clear that any kind of plants can be used in these experiments, it not being necessary to use exclusively water plants.

Dr. E. B. Matzke then told us about the studies to determine the fundamental shape of plant cells in undifferentiated tissues. According to the most conclusive evidence, such cells are not dodecahedrons but fourteen sided figures with faces consisting of squares and triangles.

Dr. B. O. Dodge discussed Sex in Fungi and showed how one may use *mucor* to show sexual reproduction in the phy-

comycetes. He laid particular stress on the ascomycetes, showed how the ascus is the result of the fusion of the two cells and further demonstrated the results of cross-breeding in *Neurospora* bread molds which he has been studying. He also explained how heterothallic strains arise from the small uninucleate ascospores which regularly occur in his eight-spored strains and sometimes arise also by the production of small supernumerary spores in the normally four-spored strains.

Professor Sinnott then directed the attention of the gathering to the exhibits and to the refreshments arranged in another room of the building, called attention to the different exhibits by Dr. Harper, Professor Hazen, Mr. Hastings, Dr. Matzke, Mr. Karling, Dr. McLean, and others and made mention also of his own of lawngrass seedlings mounted under the microscope to show protoplasmic streaming.

The formal meeting was adjourned at about 9:30 P.M.

FORMAN T. MCLEAN  
*Secretary*

#### MEETING OF JANUARY 7, 1930

The meeting was called to order at the American Museum of Natural History at 8:30 P.M. by President Denslow.

The following were unanimously elected to membership in the club:

Miss Sarah Garland, 606 West 122nd Street, New York City; Miss Margaret Lodor, 284 Paulison Avenue, Passaic, New Jersey; Dr. Henry Knute Svenson, Brooklyn Botanic Garden, Brooklyn, New York.

The resignation of Dr. Jas. A. Faris was accepted with regret.

The reports of the Secretary, of the Treasurer, of the Editor of the Bulletin, of *Torreya* and of the Business Manager were read and approved.

Dr. H. M. Denslow, Honorary Custodian of the Herbarium, reported on enlarged facilities for housing the local herbarium.

Dr. J. H. Barnhart reported as Delegate to the Council of the New York Academy of Sciences that our relations with them continue as in the past.

Dr. R. A. Harper reported as our representative to the Council of the American Association of the Advancement of Science.

Mr. Raymond H. Torrey, as Chairman of the Field Committee, reported very satisfactory results during the year and further stated that he wishes to secure the services of a number of new volunteer leaders of field trips for the coming season's program.

Dr. E. W. Sinnott, as Chairman of the Committee on Entertainment reported that the collations served at the seven meetings at the American Museum cost about fifteen dollars total and that this expense was met by donations by individuals. The American Museum restaurant staff handled this work at the Museum meetings and the entertainments at the Brooklyn Botanic Garden and Barnard College were provided by those institutions. It was voted by the club to continue this policy of serving refreshments at the downtown meetings and the President was authorized to appoint a new committee to continue the work.

The report of the death of Maturin L. Delafield a former treasurer of the Torrey Botanical Club was read by the President, and Dr. Howe and the Secretary were appointed a committee to propose a suitable resolution to be published in *Torreyana* and a copy sent to the family of the deceased.

Officers for the ensuing year were elected as follows:

*President*—Dr. Edmund W. Sinnott

*Vice Presidents*—Dr. C. Stuart Cager and Dr. Marshall A. Howe

*Secretary*—Dr. Forman T. McLean

*Treasurer*—Mrs. Helen M. Trelease

*Editor of the Torrey Botanical Club*—Dr. T. E. Hazen

*Business Manager*—Dr. Michael Levine

*Associate Editors*—Albert Francis Blakeslee, Cornelia Lee Carey, Frank Earl Denny, Alexander William Evans, Henry Allen Gleason, Alfred Gundersen, George Tracy Hastings, Marshall Avery Howe, Louis Otto Kunkel, Michael Levine, Arlow Burdette Stout and Sam F. Trelease

*Bibliographer*—Mrs. B. O. Dodge

*Delegate to the Council of the New York Academy of Sciences—*  
Dr. M. A. Howe

*Representatives on Council of A. A. A. S.—*Dr. R. A. Harper  
and Dr. B. O. Dodge

The meeting was adjourned at 9:15 P.M. and refreshments were served in the Bird Hall by the refreshment committee.

Respectfully submitted,  
FORMAN T. MCLEAN  
*Secretary*

### NEWS NOTES

Dr. Henry Knute Svenson, formerly of the editorial staff of Biological Abstracts has taken the position of Curator of Plants at the Brooklyn Botanic Garden.

Dr. George M. Reed of the Brooklyn Botanic Garden has prepared an interesting series of exhibition cases showing varieties of grains and of types of corn and of hybrids of corn and of sorghum, the latter with the two parents and the cross between them. These have gone to the high schools of New York where advanced biology is taught.

Dr. Bernard O. Dodge, of the New York Botanical Garden was among the experts who helped plan a method of preserving a series of paintings in the administration building of the Panama Canal at Balboa. The paintings had been attacked by mold which threatened to destroy them. They have now been coated with a thin film of paraffine wax which gives promise of permanent preservation.

Dr. J. C. Arthur, professor emeritus of botany at Purdue University, celebrated his eightieth birthday on January 11. At a luncheon held in his honor Dr. Arthur gave an account of the development of the department from its founding in 1888. Dr. Arthur was head of the department from the time of its founding to his retirement in 1915. He has been actively engaged in a study of rusts since his retirement and has just published a book entitled "Plant Rusts." (Science)

Dr. William A. Archer recently resigned from the Office of Plant Disease Survey of the U. S. Department of Agriculture and began work on January 15th as professor of plant pathology in the School of Agriculture and Veterinary Science at Medellin,